

INTERSECTION 80

Hawthorne Boulevard (SR-107)/Torrance Boulevard Improvement(s)

Forecast Near-Term Conditions Intersection LOS Summary

	Weekday AM Peak Hour	Weekday Mid-Day Peak Hour	Weekday PM Peak Hour	Weekend Mid-Day Peak Hour
Without Improvement(s)	39.7 – D	42.3 – D	58.7 – E	86.8 – F
With Improvement(s)	37.4 – D	40.1 – D	46.5 – D	54.9 – D

Note: Delay shown in seconds per vehicle; Deficient intersection operation shown in ***bold italics***.

Recommended Improvements:

- Widen the eastbound Torrance Boulevard approach from two left-turn lanes, three through lanes, and one right-turn lane to consist of two left-turn lanes, four through lanes, and one right-turn lane.
- Modify the eastbound Torrance Boulevard traffic signal phasing to include a right-turn overlap, which will preclude U-turn movement from northbound to southbound Hawthorne Boulevard.
- Widen the westbound Torrance Boulevard approach from two left-turn lanes, two through lanes, and one shared through/right-turn lane to consist of two left-turn lanes, four through lanes, and one right-turn lane.
- Implementation of the improvements identified at the Hawthorne Boulevard (SR-107)/Torrance Boulevard intersection will require City acquisition of approximately 12-feet of right-of-way on the eastbound Torrance Boulevard approach and departure to provide adequate alignment of eastbound Torrance Boulevard through lanes and City acquisition of approximately 24-feet of right-of-way on the westbound Torrance Boulevard approach and departure to provide adequate alignment of westbound Torrance Boulevard through lanes.

**CITY OF TORRANCE CITYWIDE TRAFFIC ANALYSIS MITIGATION MEASURES
PRELIMINARY COST ESTIMATES**

Location: Intersection 80: Hawthorne Blvd/Torrance Blvd

Date: 3/7/2008

Mitigation: Widen the eastbound Torrance Boulevard approach to consist of two left-turn lanes, four through lanes, and one right-turn lane. Additionally, modify the eastbound Torrance Boulevard traffic signal phasing to include a right-turn overlap. Widen the westbound Torrance Boulevard approach to consist of two left-turn lanes, four through lanes, and one right-turn lane.

Estimated by: D. Alvarado

	DESCRIPTION OF WORK	UNIT PRICE	QUANTITY	COST
1	Mobilization	10.00% (\$2,000 Min)		\$190,000
2	Clear & Grub	\$10,000.00 / AC	0.10	\$1,000
3	Remove Striping	\$10.00 / LF	1,133	\$11,400
4	Remove Curb & Gutter	\$15.00 / LF	1,955	\$29,000
5	Remove Median Curb	\$30.00 / LF		\$0
6	Remove PCC Sidewalk	\$3.50 / SF	12,513	\$44,000
7	Remove Pavement	\$4.00 / SF		\$0
8	Remove Wall	\$50.00 / LF	95	\$5,000
9	Remove Channel	\$15.00 / LF		\$0
10	Remove/Replace Chain Link Fence	\$50.00 / LF		\$0
11	Remove/Replace Wrought Iron Fence	\$10.00 / LF		\$0
12	Remove/Replace Survey Monument	\$800.00 / EA		\$0
13	Reconstruct Metal Beam Guard Rail	\$70.00 / LF		\$0
14	Remove & Relocate Tree	\$3,000.00 / EA	19	\$57,000
15	Sawcut	\$1.00 / LF	2,000	\$2,000
16	Relocate Street Light	\$7,500.00 / EA	12	\$90,000
17	Relocate Traffic Signal System	\$300,000.00 / EA	1.0	\$300,000
18	Signal Phase Modification	\$10,000.00 / EA	1.0	\$10,000
19	Relocate Freeway Sign (2 post)	\$1,000.00 / EA		\$0
20	Relocate Sign (1 Post)	\$300.00 / EA	4	\$1,200
21	Reconstruct Overhead Sign	\$50,000.00 / EA		\$0
22	Relocate Call Box	\$2,000.00 / EA		\$0
23	Relocate Power Pole	\$25,000.00 / EA		\$0
24	Relocate Catch Basin	\$9,000.00 / EA	2	\$18,000
25	Relocate Fire Hydrant	\$2,500.00 / EA	7	\$17,500
26	Relocate Bus Shelter	\$2,000.00 / EA	2	\$4,000
27	Relocate Bus Bench	\$600.00 / EA		\$0
28	Relocate Monument Sign	\$5,000.00 / EA	2	\$10,000
29	Relocate Utility Boxes	\$500.00 / EA		\$0
30	Relocate Main Water Valve	\$10,000.00 / EA		\$0
31	Relocate Utility Vault	\$3,000.00 / EA	44	\$132,000
32	Adjust Manhole to Grade	\$1,000.00 / EA	4	\$4,000
33	Adjust Water Meter	\$2,000.00 / EA	9	\$18,000
34	Adjust Water Valve	\$500.00 / EA	10	\$5,000
35	Adjust Minor Above Ground Utilities	\$500.00 / EA	6	\$3,000
36	Modify Driveway	\$5,000.00 / EA	4	\$20,000
37	Earthwork	\$40.00 / CY	2,133	\$85,000
38	Construct PCC Pavement	\$15.00 / SF		\$0
39	Construct AC Pavement	\$14.00 / SF	11,514	\$161,000
40	Construct AC Overlay	\$3.00 / SF		\$0
41	Construct Slurry Seal	\$0.25 / SF		\$0
42	Construct Striping & Marking	\$4.00 / LF	967	\$3,900
43	Construct AC Dike	\$7.00 / LF		\$0
44	Construct Curb & Gutter	\$40.00 / LF	2,012	\$80,000
45	Construct Concrete Barrier	\$50.00 / LF		\$0
46	Construct Median Curb	\$20.00 / LF		\$0
47	Construct Median Concrete	\$10.00 / SF		\$0
48	Construct Median/Parkway Landscaping	\$10.00 / SF		\$0
49	Construct PCC Sidewalk	\$10.00 / SF	11,234	\$112,000
50	Construct Access Ramp	\$5,000.00 / EA	6	\$30,000
51	Construct Retaining Wall	\$50.00 / SF		\$0
52	Construct Storm Drain Main	\$100.00 / LF		\$0
53	Construct RCB	\$1,000.00 / LF		\$0
54	Construct Headwall	\$5,000.00 / EA		\$0
55	Construct Concrete V-Ditch	\$15.00 / LF		\$0
56	Construct Bridge Widening	\$500.00 / SF		\$0
57	Construct Wall	\$70.00 / LF	57	\$4,000
58	Building/Structure Demolition (2-Story Bldg)	\$10.00 / SF	10,216	\$102,000
59	Traffic Control (\$5,000 min)	8%	1	\$109,000
60	Drainage Items	10%	1	\$147,000
61	SWPPP Plan and Implementation	6%	1	\$96,216
	CONSTRUCTION SUBTOTAL			\$1,902,216
	Right-of-Way	100 / SF	8,871	\$887,000
	Right-of-Way Management	5 / %		\$44,000
	RIGHT-OF-WAY SUBTOTAL			\$931,000
	TOTAL CONSTRUCTION & RIGHT-OF-WAY COST			\$2,834,000
	Preliminary Project Development (10% of total Construction/RW cost)			\$284,000
	Design Engineering/Administration Costs (15% of total Construction/RW cost) (\$10,000 min)			\$426,000
	Construction Engineering Costs/Administration (10% of total Construction/RW cost) (\$5,000 min)			\$284,000
	Contingency (20% of Total Construction/RW cost) (\$5,000 min)			\$567,000
	TOTAL PROJECT COSTS			\$4,395,000